

A VASCULAR PLANT INVENTORY OF STARKEY WILDERNESS PRESERVE, PASCO COUNTY, FLORIDA

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ABSTRACT

Starkey Wilderness Preserve, owned and managed by the Southwest Florida Water Management District, contains 7,739.5 hectares with 18 plant communities. A floristic inventory was conducted on 449.2 hectares within the property which consists of 11 community types and is considered as representative of the entire Preserve. The objective of this study, conducted from May 2003 to October 2004, was to compile a list of the vascular plant taxa found to be used by the Southwest Florida Water Management District to help in their management regimes. A total of 483 taxa were collected, representing 104 families, and 271 genera. Of these, 444 are native taxa, 16 Florida endemic taxa, 39 non-native taxa, 12 endangered, threatened or commercially exploited taxa, and 33 county records. Each plant community is described and an annotated list of the vascular plant taxa is presented.

RESUMEN

La reserva de Starkey Wilderness, gestionada por el Southwest Florida Water Management District, tiene 7,739.5 hectáreas con 18 comunidades vegetales. Se realizó un inventario florístico en 449.2 hectáreas de la reserva que contiene 11 tipos de comunidades y que se consideran representativos de la Reserva entera. El objetivo de este estudio, realizado desde mayo de 2003 hasta octubre de 2004, fue compilar una lista de taxa de plantas vasculares usadas por el Southwest Florida Water Management District para ayudar en su régimen de gestión. Se colectaron un total de 483 taxa, que representan 104 familias, y 271 géneros. De ellos, 444 son taxa nativos, 16 taxa endémicos de Florida, 39 taxa alóctonos, 12 taxa en peligro, amenazados o explotados comercialmente, y 33 citas del condado. Se describen las comunidades vegetales y se presenta una lista comentada de los taxa de plantas vasculares.

INTRODUCTION

Florida is a unique state with a relatively flat topography and generally fast draining soils. These conditions would presumably lead to a flora with low diversity, but that is not the case. The state is about 1000 km long and spans about 6.5° latitude resulting in a diverse flora consisting of nearly 4,200 taxa of native and naturalized non-native vascular species (Wunderlin & Hansen 2003), the third most diverse in the United States. As Florida is also the fourth most populated state, it is important to work to conserve and protect the state's flora.

Several agencies in Florida work to secure large tracts of land in an effort to prevent development and to establish areas of conservation. One of these, the Southwest Florida Water Management District (SWFWMD), owns many parcels of land for a variety of water management practices including the protection

and development of potable water supplies, aquifer recharge, water quality enhancement, restoration and protection of natural systems, and structural flood control. The property in which the inventory was conducted is owned and managed by SWFWMD. The results of this research are intended to help SWFWMD make knowledge-based management plans for its property.

Site Overview

Physical Location.—Starkey Wilderness Preserve is located in southwestern Pasco County, Florida, near the west coast of central Florida (Fig. 1). It is 6.4 km northeast of Seven Springs and 4.4 km northwest of Odessa. Main access to the Preserve is Wilderness Road approximately 5.6 km from State Road 54. A portion considered to represent the major habitats found within the entire Preserve was selected for this inventory. The Starkey Wilderness Preserve is included within Sections 1–17, 21–24, and 26–27, Township 26 South, Range 17 East and Sections 10–11, 13–15, 22–27, and 33–36, Township 25 South, Range 17 East. The entire Preserve comprises approximately 7,739.5 hectares and consists of 18 plant communities. Of these, 11 occur within the study site. The study site, consisting of 449.2 hectares, includes portions of Sections 3–4, 8–10, and 15–17, Township 26 South, Range 17 East. The boundaries of the study site comprise a power line artery along the western edge, a paved biking trail at the north, an unpaved road running due south along the eastern edge, and the Anclote River along the south.

Early Inhabitants.—The first humans who lived near the Starkey Wilderness Preserve were the Safety Harbor Culture or the Tocobaga, who inhabited the Florida Gulf coast (Lawson et al. 1981). The period of their inhabitation was from 900 A.D. through the early eighteenth century (Milanich 1994). The settlement area extended from the Withlacoochee River (north and east boundary of Citrus County) south to the Charlotte Harbor area (Charlotte County). Tocobaga arrowheads have been unearthed on the Starkey property, suggesting their use of the land to hunt (Lawson et al. 1981). Approximately 33 prehistoric archaeological sites have been identified as temporary campsites for hunting within the Starkey Wilderness Preserve (SWFWMD 1990). Hunters on the Preserve could have originated from two different sites. The first, a flint workshop located 3.2 km north of the Anclote River along the coast; and the second, Tarpon Springs at the mouth of the Anclote River (Willey 1949). In the eighteenth century, after the Spanish established themselves in much of the state, the remaining Tocobaga are believed to have joined the Creek tribes from further north as they moved south seeking refuge from persecution by the new settlers.

The land now included in the Starkey Wilderness Preserve passed from the Federal Government to the State of Florida and private ownership beginning in 1856 (Lawson et al. 1981). Principal land uses were for turpentine production

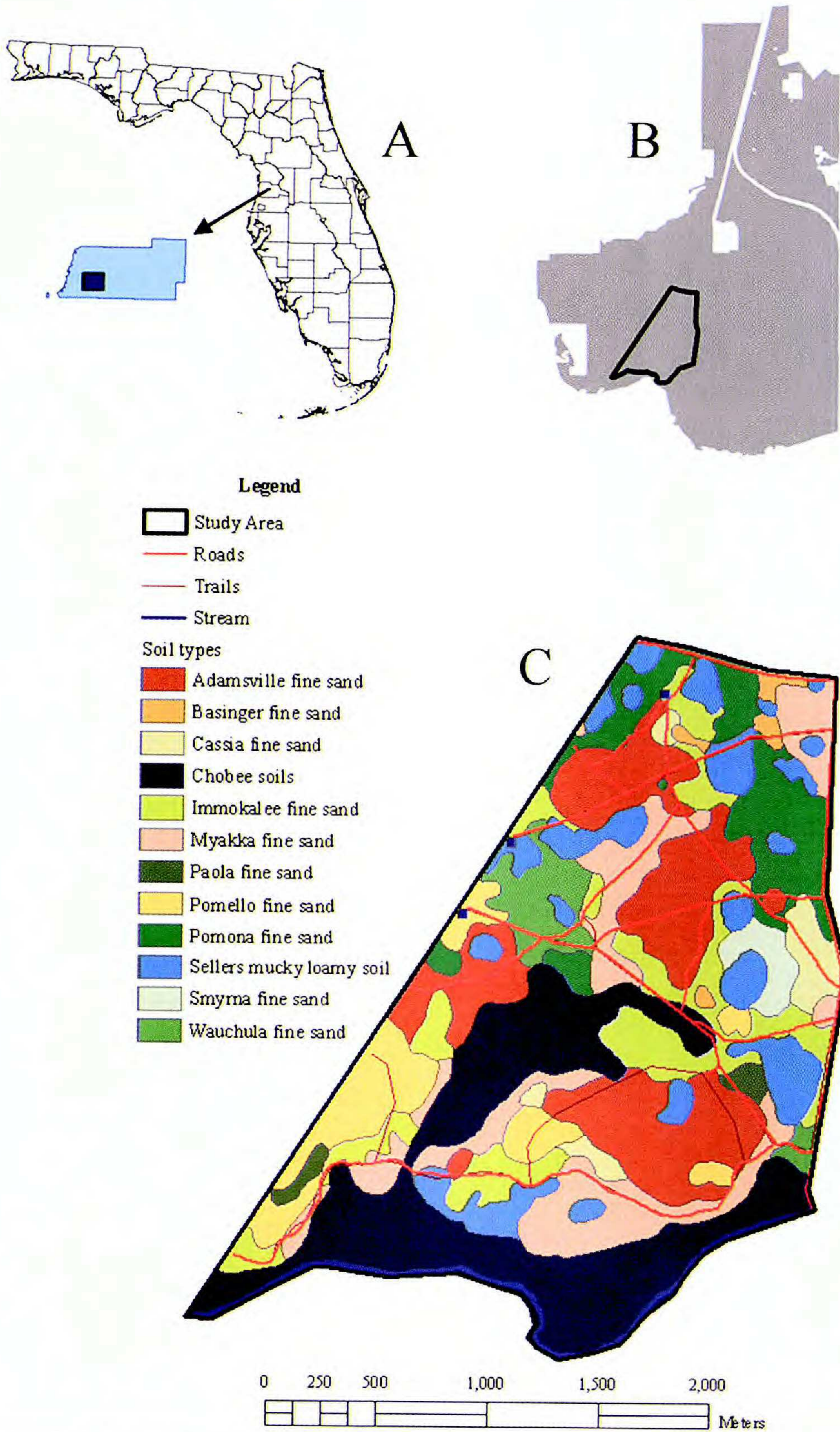


FIG. 1. **A.** Location of the Jay B. Starkey Wilderness Preserve, Pasco County, Florida. **B.** Jay B. Starkey Wilderness Preserve with outline of the study area. **C.** Plant communities in the Jay B. Starkey Wilderness Preserve study area.

and for cypress and pine lumber. In 1937, Jay B. Starkey and his partners, Ernest, Dave, and Howard Cunningham, bought 6,070 hectares. The C-S (Cunningham-Starkey) Ranch was used to raise cattle by both families. As land values increased and cattle yields decreased, portions of the land were sometimes sold to developers. Jay B. Starkey, who outlived his partners, finally sold the cattle and the equipment to his son Jay B. Starkey, Jr. The senior Starkey still lived and worked the land with his son for cattle ranching, and later during World War II, converted about 30 hectares into an orange grove. Over the years, items such as timber, pine stumps, and resin were sold to provide extra income. In 1975, as the population increased in the county, Jay B. Starkey, Sr. decided to preserve the land from development by selling part of the ranch to SWFWMD with the understanding that SWFWMD would maintain the land in its natural state (Lawson et al. 1981). By 1980, SWFWMD had acquired 1,407.9 hectares (Wells 2004). The SWFWMD has purchased additional property since then and the Starkey Wilderness Preserve now comprises approximately 7,739.5 hectares.

Climate.—The climate of Pasco County is humid and subtropical (Chen & Gerber 1990). The constant cyclical pattern consists of cool, dry winters and warm, humid summers. Annual mean temperature is 22° C (SWFWMD 1988). During the winter months, December through February, the monthly mean temperature is 16° C. The temperature will usually drop to freezing at least once a year. During the summer months, from June to September, the monthly mean temperature is about 27° C, with highs reaching about 33° C.

Rainfall in Pasco County varies seasonally, oscillating between the rainy season and the dry season (SWFWMD 1988). From October to May, rainfall is less than 10.2 cm per month, while during the summer months, June through September, the area receives about 18.4 cm of rainfall per month. This accounts for about half of the rainfall for the year. In spring, central Florida, including Pasco County, experiences harsher and longer, dry drought-like conditions than either northern or southern Florida (Chen & Gerber 1990). The high amounts of rain that fall from June to September are attributed to the convective clouds, sea breezes, and tropical storms. By the beginning of October, the rainfall decreases by about 50 percent from that of the summer months, indicating the beginning of the dry period.

Geology.—The geology underlying the Starkey Wilderness Preserve is the Suwannee Formation deposited during the Oligocene epoch of the Tertiary period (34 to 24 MYBP) (Scott et al. 2001). This formation is a yellow to white, fossiliferous, fine-grained limestone (Wetterhall 1964). It is a very porous formation that contains the Upper Floridan Aquifer. Below the Suwannee Formation are the Ocala and Avon Park Formations, both deposited during the Eocene epoch of the Tertiary period (55 to 34 MYBP). Both of the lower formations are also important parts of the Floridan aquifer.

Soils.—Twelve distinct soil types occur within the study site. The domi-

nant types are: Chobee, frequently flooded (22%); Adamsville fine sand (19%); Myakka fine sand (13%); Immokalee fine sand (11.5%); and Sellers mucky loamy fine sand (10%). Other soil types present are Pomona fine sand (8%); Pomello fine sand, 0 to 5 percent slope (6%); Wauchula fine sand, 0 to 5 percent slope (4%); Cassia fine sand, 0 to 5 percent slope (3%); Smyrna fine sand (1.5%); Paola fine sand (1%); and Basinger fine sand (1%) (Stankey 1982).

Topography and Hydrology.—Starkey Wilderness Preserve is located in the Gulf Coastal Lowlands physiographic province, which is characterized by low elevations and poor drainage. Within the study site, the elevation ranges from 9.1 to 16.8 m (USGS 1974). The majority of the site has an elevation of 10.7 to 12.2 m. The swamp and river floodplain area ranges from 9.1 to 10.7 m.

The Anclote River, located primarily in Pasco County, is 27.4 km long. About 8.1 km of the Anclote, excluding the south branch, is within the Starkey Wilderness Preserve (SWFWMD 1990). The southern border for the study site is an approximately 3.2 km section of the Anclote River (fig. 1). The Anclote is characterized as a slow moving, turbid, acidic, black water stream. The channel is not more than 6 m wide at any point along the southern boundary of the study site. During low flow stage, the stream is confined to the channel. As the rainy season starts, the Anclote overflows its banks inundating the floodplain forest, and remains at flood stage for two to three months. When the river overflows its banks, the water flowing into the floodplain removes waste and provides nutrients to the floodplain community. The sediment load settles out as the water moves out of the channel. Heavier sediments are deposited first closer to the channel due to their weight, and finer, lighter sediments settle out more slowly further away from the channel.

Disturbances Affecting the Study Site.—With the exception of the effects of cattle grazing, lumbering, and other minor events, the study area has undergone few changes. The western boundary of the study site is the right-of-way for the Florida Power Corporation electrical transmission line. This 46 m wide artery was constructed in the 1970s (SWFWMD 1990). In order to maintain the right-of-way the area is frequently mechanically cleared. In addition, SWFWMD built 14 active production water wells within the Preserve. These wells pump water from the Preserve to provide potable water for the city of New Port Richey. Three production wells occur within the study site. An approximately 3,240-hectare portion of the Preserve, the Jay B. Starkey Wilderness Park, is open to the public for a number of recreational opportunities. In order to provide these recreational activities, SWFWMD constructed a paved road, hiking/biking trails, horse riding trails, primitive camp sites, and semi-primitive road beds. A number of these features occur within the study site as well.

The most recent disruption within the study site was a wildfire that was believed to have started from a lightning strike June 3, 2004. After persisting through the night, the wildfire consumed approximately 162 hectares on June

4, primarily in a band through the center of the study site. This fire occurred towards the end of the research collection period and thus had little impact on data collection.

Management Regimes.—The management plan devised and implemented by SWFWMD (1990) includes several conceptual land uses. The most important function for the District is to manage the well field withdrawals. The consumptive use permit renewed in 1979 allows the city of New Port Richey to withdraw 30 to 57 million liters per day from the 14 wells within the Preserve (SWFWMD, 1990). This water withdrawal has produced shorter hydroperiods, lower peak water levels, increased rates of succession into wetland areas, and unusual plant associations (SWFWMD 1990).

To manage areas of historical significance, SWFWMD protects them from disturbance by keeping hiking and horse-riding trails away from them. SWFWMD has opened the Preserve for “low intensity resource-based” recreation by building facilities for local use (SWFWMD 1990). These recreational facilities are managed by Pasco County. They include hiking, biking, horse riding, birding, camping, and any other non-motorized activities. The hiking/biking trails are separate from the horse riding trails to avoid safety hazards.

Land management practices exercised by SWFWMD include a number of ways to improve or preserve the quality of the property. The District uses prescribed burning to conserve various communities and to restore habitats. During the summer months, when there is greater thunderstorm activity, higher lightning frequency giving way to natural wildfires which SWFWMD contains and controls. The District normally burns during the winter months in order to limit and control fires (SWFWMD 1990).

A population of feral hogs has disturbed the soil while rooting, causing damage to some habitats and previously preserved historical sites. Part of the management plan is to reduce or minimize their impact.

METHODS

Vascular plant specimen vouchers were collected from May 2003 to October 2004 using standard field collection and herbarium techniques. Notes were made for each collection regarding the habitat and frequency of occurrence. One complete set of voucher specimens was deposited at the University of South Florida Herbarium (USF). The floras of Wunderlin (1998) and Wunderlin and Hansen (2003) were utilized for identifications, followed by verification with specimens in the USF herbarium.

Vascular plants of special interest include those taxa that are Federal and/or State listed species and exotic species listed by the Florida Exotic Pest Plant Council (FLEPPC 2005). Species unreported for Pasco County as determined by Wunderlin and Hansen (2005) are noted.

The plant community classification for the study site follows that of Florida

Natural Areas Inventory (FNAI 1990). The plant communities are described and include the dominant species found within each layer (overstory, understory, and herbaceous ground layer).

RESULTS AND DISCUSSION

A total of 483 taxa were collected within the study site within Starkey Wilderness Preserve. The flora is comprised of 104 families and 271 genera (Table 1). The families with the greatest number of taxa are: Asteraceae (66), Poaceae (62), Cyperaceae (39), and Fabaceae (28). The genera with the most abundant taxa are: *Rhynchospora* (12), *Quercus* (10), *Hypericum* (9), *Andropogon* (8), *Ludwigia* (8), and *Dichanthelium* (8).

About 92% of the flora in the study site is native. Sixteen (3%) of the species found are endemic to Florida. Four of the 39 non-native taxa are listed by the Florida Exotic Pest Plant Council (FLEPPC 2005). Thirty-three taxa are records for Pasco County (Wunderlin & Hansen 2005). Twelve taxa are listed as endangered, threatened, or commercially exploited in Florida (Coile & Garland 2003). No Federally listed taxa occur on the site.

Starkey Wilderness Preserve consists of 18 plant communities. Eleven of these occur within the study site. Comparing the Preserve with the study site shows the study site is representative of the Preserve (Table 2). The plant communities that fall outside the boundaries of the study site are not dominant ones and contribute only 4% of the total area of the Preserve. Thus the plant list compiled for the study site is fairly representative for the majority of the Preserve.

NATURAL COMMUNITIES

The classification for plant communities found within the study site following the Florida Natural Areas Inventory guidelines (FNAI 1990, 2004) are discussed below from the lowest elevation type to the highest followed by the ruderal areas.

Floodplain Forest.—The floodplain forest is a forested wetland that consists of 64.3 hectares adjacent to the River. Flooding is closely linked to the rain events that occur throughout the summer months. The soil is Chobee (Stankey 1982).

The dominant tree species that make up the overstory of the floodplain forest are *Acer rubrum*, *Carpinus caroliniana*, *Fraxinus caroliniana*, *Ilex cassine*, *Nyssa sylvatica* var. *biflora*, *Persea palustris*, *Quercus laurifolia*, *Quercus virginiana*, *Sabal palmetto*, *Taxodium distichum*, *Ulmus alata*, and *Ulmus americana*. Some of these are buttressed due to the long hydroperiods. Noteworthy epiphytic species are *Encyclia tampensis*, *Epidendrum conopseum*, *Pleopeltis polypodioides*, and *Tillandsia* spp. The woody understory includes *Berchemia scandens*, *Campsis radicans*, *Cephalanthus occidentalis*, *Psychotria nervosa*, *Psychotria sulzneri*, and *Toxicodendron radicans*. The herbaceous ground layer consists of a number of pteridophytes including *Blechnum*

serrulatum, *Osmunda cinnamomea*, *Osmunda regalis*, *Thelypteris interrupta*,
TABLE 1. Synopsis of the vascular plants found in the Jay B. Starkey Wilderness Preserve study area.

	Taxa	Genera	Families	Endemics	Non-native	Co. Records
Pteridophytes	13	9	7	0	1	2
Gymnosperms	7	4	3	0	0	0
Monocotyledons	164	71	24	2	17	14
Dicotyledons	299	187	70	14	21	17
Totals	483	271	104	16	39	33

TABLE 2. Summary of the plant communities in the Jay B. Starkey Wilderness Preserve and the study area.

Plant Community	SWP	SA	Plant Community	SWP	SA
Basin Marsh	101.2		Oak Scrub	70.4	
Basin Swamp	1,422.1	61.5	Pine Plantation	22.2	
Clastic Upland Lake	10.9		Ruderal and Disturbed	888.3	0.4
Depression Marsh	48.6	2.0	Sand Pine Scrub	206.0	20.2
Dome Swamp	234.7	10.5	Sandhill	275.6	34.4
Dry Prairie	0.8		Scrubby Flatwoods	331.4	40.5
Floodplain Forest	746.2	64.3	Wet Flatwoods	79.3	
Hydric Hammock	28.3		Wet Prairie	40.9	4.1
Mesic Flatwoods	3,005.6	207.2	Xeric Hammock	227.0	4.1

Woodwardia areolata, and *Woodwardia virginica*. Also common are *Carex gigantea*, *Hypoxis curtissii*, *Iris hexagona*, *Rhynchospora miliacea*, *Saururus cernuus*, *Scleria triglomerata*, and *Spiranthes odorata*. A non-native species found along the unimproved trails into the floodplain forest is *Urena lobata*.

Basin Swamp.—A basin swamp is a large irregularly-shaped depression that is not part of a river, although during the rainy season it may be connected via surface flow to the river. This region is vegetated by species similar to the floodplain forest. The soils in the study site are Chobee and Sellers mucky loamy fine sand (Stankey 1982); both of these are frequently inundated with water. The study site contains 61.5 hectares of basin swamp. The largest of this community type in the study site is located in the middle of the lower half of the site; it was probably an oxbow originating from the Anclote River.

The dominant overstory species include *Acer rubrum*, *Carpinus caroliniana*, *Diospyros virginiana*, *Fraxinus caroliniana*, *Gordonia lasianthus*, *Ilex cassine*, *Nyssa sylvatica* var. *biflora*, *Persea palustris*, *Taxodium distichum*, *Ulmus alata*, and *Ulmus americana*. The dominant woody understory species are *Cephalanthus occidentalis*, *Lyonia lucida*, and *Myrica cerifera*. The herbaceous ground layer consists primarily of *Amphicarpum muhlenbergianum*,

Carex spp., *Cladium jamaicense*, *Cyperus* spp., *Eleocharis* spp., *Eriocaulon decangulare*, *Juncus* spp., *Leersia hexandra*, *Panicum hemitomon*, *Peltandra virginica*, *Pontederia cordata*, *Rhexia* spp., *Sagittaria lancifolia*, *Saururus cernuus*, and *Scleria* spp. The basin swamp also contains a number of epiphytic species such as *Pleopeltis polypodioides*, *Tillandsia recurvata*, *Tillandsia simulata*, *Tillandsia usneoides*, and *Tillandsia* × *floridana*.

Dome Swamp.—Dome Swamps are found throughout the study site. The study site contains 10.5 hectares of dome swamp. These circular to oblong depressions contain Sellers mucky loamy fine sand, a very poorly-drained soil type (Stankey 1982). An impermeable clay layer beneath the soil helps maintain water levels in these depressions. The depression is due to the soils slumping into sinkholes formed in the limestone rock. Most of the water found in the swamp is surface runoff from surrounding upland communities. The dome swamp may become completely desiccated at the end of the dry season, exposing the peat layer for a couple of weeks. These areas have a domed profile with smaller trees in the shallow water near the edge and larger trees in the deeper water in the middle of the swamp.

The dominant tree in the dome swamp is *Taxodium ascendens*. Other prominent overstory species include *Acer rubrum*, *Diospyros virginiana*, *Ilex cassine*, *Nyssa sylvatica* var. *biflora*, and *Persea palustris*. Typical woody understory species are *Lyonia lucida*, *Myrica cerifera*, *Smilax laurifolia*, and *Toxicodendron radicans*. The herbaceous ground layer includes the pteridophytes *Thelypteris interrupta*, *Woodwardia areolata*, and *Woodwardia virginica*. Other ground layer species are *Drosera capillaris*, *Helenium pinnatifidum*, *Polygala cymosa*, *Polygonum hydropiperoides*, *Rhynchospora latifolia*, *Spiranthes laciniata*, and *Xyris* spp. The epiphytic flora is similar to that of the floodplain forest and basin swamp and includes *Pleopeltis polypodioides*, *Tillandsia recurvata*, *Tillandsia simulata*, *Tillandsia usneoides*, and *Tillandsia* × *floridana*. A rare find in one of the swamps was *Vittaria lineata*.

Depression Marsh.—Depression marshes are characterized by low depressions in the flatwoods community due to slumping around the edges of a sinkhole or water collecting on top of a hardpan subsurface layer. Two hectares of depression marsh occur in the study site. The soils are Adamsville fine sand and Basinger fine sand (Stankey 1982).

These regions typically do not contain any overstory species. Woody species include *Hypericum fasciculatum*, *Ilex glabra*, *Myrica cerifera*, and *Stillingia aquatica*. The herbaceous ground layer contains *Amphicarpum muhlenbergianum*, *Carex* spp., *Cyperus* spp., *Eleocharis* spp., *Eriocaulon decangulare*, *Juncus* spp., *Lachnanthes caroliana*, *Panicum hemitomon*, *Rhexia* spp., *Sabatia grandiflora*, *Scleria* spp., and *Xyris* spp.

Wet Prairie.—About 4.1 hectares of the study site is covered by this open wetland herbaceous community. It is often found within the mesic flatwoods

or surrounding the fringe of a dome or basin swamp. The soils are Basinger fine sand and Myakka fine sand (Stankey 1982). The area is poorly drained due to the subsoil layer of hardpan clay.

The wet prairie includes some native invading woody species: *Hypericum fasciculatum*, *Ilex glabra*, *Myrica cerifera*, and *Stillingia aquatica*. The herbaceous ground layer primarily consists of *Aletris lutea*, *Amphicarpum muhlenbergianum*, *Aristida stricta*, *Carex* spp., *Cyperus* spp., *Drosera capillaris*, *Eleocharis* spp., *Eriocaulon decangulare*, *Eupatorium mohrii*, *Fimbristylis* spp., *Juncus* spp., *Lachnanthes caroliana*, *Panicum hemitomon*, *Polygala* spp., *Rhexia mariana*, *Sabatia* spp., *Scleria* spp., *Syngonanthus flavidulus*, and *Xyris* spp.

Mesic Flatwoods.—The most dominant fire adapted community found in the study site (207.2 hectares) is mesic flatwoods. This community has a relatively flat topography. The dominant soils are Immokalee fine sand, Myakka fine sand, and Smyrna fine sand (Stankey 1982). These soils normally have low levels of nutrients and organic matter. A hardpan clay layer under the soil causes poor water drainage in the rainy season and xeric conditions during the dry season.

The overstory layer is composed of *Pinus elliotti* and *Pinus palustris*. The pines are widely spaced across the community allowing for a dense woody understory layer. The understory layer includes *Ilex glabra*, *Lyonia lucida*, and *Serenoa repens*. Smaller understory layer species are *Gaylussacia frondosa*, *Quercus minima*, *Vaccinium corymbosum*, and *Vaccinium myrsinites*. The rich herbaceous ground layer includes *Amphicarpum muhlenbergianum*, *Aristida stricta*, *Dichanthelium ensifolium*, *Dichanthelium portoricense*, *Elephantopus elatus*, *Eupatorium mohrii*, *Euthamia caroliniana*, *Pityopsis graminifolia*, *Polygala lutea*, *Polygala setacea*, *Pteridium aquilinum*, *Pterocaulon pycnostachyum*, *Seymeria cassioides*, and *Sorghastrum secundum*.

Sandhill.—The sandhill community makes up 34.4 hectares of the study site. There are two areas; both are relatively high in elevation at 12.2–15.2 m and have topography consisting of rolling hills and gentle slopes. The soil of both areas is Adamsville fine sand (Stankey 1982), which is also found under the scrubby flatwoods community within the study site. The deep sandy soils that are easily leached and well drained create xeric characteristics in this community. The overstory layer is sparse, allowing sunlight to reach the ground layer, adding to the xeric condition.

The dominant overstory species include *Pinus palustris*, *Quercus incana*, *Quercus laevis*, and *Quercus margaretta*. Understory species include *Asimina obovata*, *Asimina reticulata*, *Diospyros virginiana*, *Gaylussacia dumosa*, *Licania michauxii*, *Myrica cerifera*, *Quercus minima*, *Rhus copallinum*, and *Serenoa repens*. The herbaceous ground cover layer consists primarily of *Aristida stricta*, *Asclepias humistrata*, *Balduina angustifolia*, *Dichanthelium portoricense*, *Phoebanthus grandiflorus*, *Pityopsis graminifolia*, *Pterocaulon pycnostachyum*, *Rhynchospora megalocarpa*, and *Sorghastrum secundum*.

Scrubby Flatwoods.—This community consists of 40.5 hectares within the study area. The soil is Adamsville fine sand (Stankey 1982). The vegetation consists of a mixture of mesic flatwoods and sand pine scrub species. It is characterized by an open pine canopy with sparse scattered clumps of oak species and patches of open sand.

The species found in the overstory include *Pinus clausa*, *Pinus palustris*, *Quercus chapmanii*, *Quercus geminata*, and *Quercus myrtifolia*. The dense understory layer contains *Garberia heterophylla*, *Lyonia ferruginea*, *Lyonia fruticosa*, *Serenoa repens*, and *Ximenia americana*. The herbaceous ground layer contains *Aristida spiciformis*, *Aristida stricta*, *Carphephorus corymbosus*, *Dichanthelium portoricense*, *Lupinus diffusus*, *Pteridium aquilinum*, and *Rhynchospora megalocarpa*. Several *Pinus palustris* have the epiphyte *Tillandsia ×floridana*.

Sand Pine Scrub.—One area containing a scrub community totaling 20.2 hectares occurs within the study site along the western boundary. This community develops along the ridgeline of ancient dune formations composed of very fine sand sometimes referred to as “sugar sand.” The soil is Pomello fine sand (Stankey 1982). These fine sands allow rain water to quickly percolate down to the aquifer creating a xeric growing condition. The scrub can have an open or closed canopy consisting of *Pinus clausa* with various oaks and shrubs dominating the understory. Normally this community type exhibits patches of exposed sand; however, in the study site these are very few. The scrub found within the study site has mature *Pinus clausa*, an indication of fire suppression.

Under the *Pinus clausa*, the dominant overstory also contains *Quercus chapmanii*, *Quercus geminata*, and *Quercus myrtifolia*. The understory shrub layer contains *Asimina obovata*, *Ceratiola ericoides*, *Garberia heterophylla*, *Licania michauxii*, *Lyonia ferruginea*, *Lyonia fruticosa*, *Serenoa repens*, and *Ximenia americana*. The herbaceous ground cover is sparse; however some common herbs found there are *Palafoxia intergrifolia*, *Pityopsis graminifolia*, and *Rhynchospora megalocarpa*.

Xeric Hammock.—Xeric hammock is generally considered a degraded fire-excluded scrub or sandhill community. This community in the study site is an advanced sandhill community and consists of 4.1 hectares on the fringes of the northern sandhill community. The xeric hammock occurs on two soil types, Adamsville fine sand and Immokalee fine sand (Stankey 1982). The community lacks a closed overstory canopy, but a low canopy is present from the shrub layer dominated by oaks.

The overstory species consist of *Pinus palustris* (few), *Quercus geminata*, and *Quercus laevis*. The dense woody understory consists primarily of *Licania michauxii*, *Lyonia fruticosa*, *Quercus chapmanii*, *Quercus myrtifolia*, and *Serenoa repens*. The herbaceous ground layer includes *Aristida stricta*, *Dichanthelium portoricense*, *Galactia elliottii*, *Pteridium aquilinum*, and *Rhynchospora megalocarpa*.

Ruderal.—Ruderal areas within the study site include regions of disturbance due to anthropogenic changes. This encompasses 0.4 hectare of roadsides, hiking trails, horse riding trails, well pump houses, improved pasture, and the fringe of the power line artery. These areas contain a high number of non-native species because of the recent disturbances caused by their construction and subsequent use.

The most prominent non-native is *Paspalum notatum* followed by *Crotalaria* spp., *Indigofera hirsuta*, and *Ludwigia peruviana*. The Southwest Florida Water Management District (SWFWMD) has worked to manage these ruderal areas to encourage recruitment of native species.

ANNOTATED LIST OF THE VASCULAR FLORA

The vascular flora of the study site within the Starkey Wilderness Preserve in the following list is documented by vouchered specimens in the University of South Florida herbarium (USF). The list is divided into four major sections: pteridophytes, gymnosperms, monocots, and dicots (basal angiosperms and eudicots). Within these sections the list is arranged alphabetically by family, genus, and species. The nomenclature follows Wunderlin and Hansen (2003, 2005).

Each species and infraspecific taxon is followed by a common name and its frequency of occurrence. The frequency of occurrence is given as: **R**, rare, less than four individuals found; **O**, occasional, between four and 15 plants noted; and **C**, common, more than 15 plants in the immediate area. Following the frequency of occurrence, the primary plant community from which the species was collected is noted. The plant communities include: basin swamp (**BS**); depression marsh (**DM**); dome swamp (**DW**); floodplain forest (**FF**); mesic flatwoods (**MF**); ruderal (**RD**); sandhill (**SH**); scrubby flatwoods (**SF**); sand pine scrub (**SP**); wet prairie (**WP**); and xeric hammock (**XH**). Following this, taxa listed as endangered, threatened, or commercially exploited in Florida (Coile & Garland 2003) are noted. The number(s) in brackets at the end of each species are the collection number(s) of the first author.

Species endemic to Florida are listed in **bold** font. Non-native species are marked with an asterisk (*). New records for Pasco County are indicated by an underline. Exotic species listed by the Florida Exotic Pest Plant Council (FLEEPC 2005) are listed with their ranking: Category I—species altering Florida's natural plant community by displacing native species and changing the structure of the community; Category II—species having the ability in the future to alter Florida's natural plant communities by displacing natives and changing the community structure.

PTERIDOPHYTES**Blechnaceae**

Blechnum serrulatum Rich.—toothed midsorus fern; C; DS (116, 498, 538)

Woodwardia areolata (L.) T. Moore—netted chain fern; C; FF (552, 822)

Woodwardia virginica (L.) Sm.—Virginia chain fern; C; FF (523, 499, 418)

Dennstaedtiaceae

Pteridium aquilinum (L.) Kuhn var. *pseudocaudatum* (Clute) Clute ex A. Heller—tailed bracken fern; C; MF (249, 823)

Lycopodiaceae

Lycopodiella alopecuroides (L.) Cranfill—foxtail club-moss; R; BS (266)

Osmundaceae

Osmunda cinnamomea L.—cinnamon fern; C; FF; commercially exploited (347)

Osmunda regalis L. var. *spectabilis* (Willd.) A. Gray—royal fern; O; FF; commercially exploited (553, 655)

Polypodiaceae

Phlebodium aureum (L.) J. Sm.—golden polypody; O; DS (579)

Pleopeltis polypodioides (L.) E.G. Andrews & Windham var. *michauxiana* (Weath.) E.G. Andrews & Windham—resurrection fern; C; FF (398)

Thelypteridaceae

**Thelypteris dentata* (Forssk.) E.P. St. John—downy maiden fern; O; FF (803)

Thelypteris interrupta (Willd.) K. Iwats.—hottentot fern; C; FF (354)

Thelypteris kunthii (Desv.) C.V. Morton—widespread maiden fern; C; FF (554)

Vittariaceae

Vittaria lineata (L.) Sm.—shoestring fern; R; DS (765)

GYMNOSPERMS**Cupressaceae**

Juniperus virginiana L.—red cedar; R; RD (782)

Taxodium ascendens Brongn.—pond-cypress; C; DS (170)

Taxodium distichum (L.) Rich.—bald-cypress; C; FF (108)

Pinaceae

Pinus clausa (Chapm. ex Engelm.) Vasey ex Sarg.—sand pine; C; SF (290)

Pinus elliottii Engelm.—slash pine; C; MF (595)

Pinus palustris Mill.—longleaf pine; C; MF (581)

Zamiaceae

Zamia pumila L.—Florida arrowroot; R; MF; commercially exploited (310)

MONOCOTS**Agavaceae**

Yucca filamentosa L.—Adam's needle; O; SH (91)

Alismataceae

Sagittaria graminea Michx. var. *graminea*—grassy arrowhead; O; DS (115, 380)

Sagittaria graminea Michx. var. *chapmanii* J.G. Sm.—Chapman's arrowhead; O; FF (480)

Sagittaria lancifolia L.—bulltongue arrowhead; C; DS (528, 716)

Amaryllidaceae

Zephyranthes atamasca (L.) Herb. var. *treatiae* (S. Watson) Meerow—Treat's rainlily; R; FF; threatened (665)

Araceae

Arisaema triphyllum (L.) Schott—Jack-in-the-pulpit; R; FF (740)

Lemna valdiviana Phil.—Valdivia duckweed; C; BS (215)

Peltandra virginica (L.) Schott—green arrow arum; R; BS (776)

Arecaceae

Sabal minor (Jacq.) Pers.—dwarf palmetto; C; FF (316)

Sabal palmetto (Walter) Lodd. ex Schult. & Schult.f.—cabbage palm; O; FF (794)

Serenoa repens (W. Bartram) Small—saw palmetto; C; MF (80)

Bromeliaceae

Tillandsia bartramii Elliott—Bartram's airplant; C; SH (494)

Tillandsia recurvata (L.) L.—ballmoss; C; SH (270)

Tillandsia setacea Sw.—southern needleleaf; C; FF (751)

Tillandsia simulata Small—airplant; C; FF (305, 351, 577)

Tillandsia usneoides (L.) L.—Spanish moss; C; SH (452)

Tillandsia utriculata L.—giant airplant; O; SH; endangered (837)

Tillandsia × *floridana* (L.B. Sm.) H. Luther; C; SF (306)

Burmanniaceae

Burmannia capitata (J.F. Gmel.) Mart.—southern bluethread; O; DS (509)

Commelinaceae

Callisia ornata (Small) G.C. Tucker—Florida scrub roseling; O; MF (75, 138)

Commelina erecta L.—whitemouth dayflower; O; RD (77, 781)

Cyperaceae

**Bulbostylis barbata* (Rottb.) C.B. Clarke—watergrass; O; RD (838)

Carex gigantea Rudge—giant sedge; C; FF (556, 661)

Carex longi Mack.—Long's sedge; C; FF (546, 558, 602, 830)

Carex verrucosa Muhl.—warty sedge; C; DS (383, 690, 706)

Cladium jamaicense Crantz—Jamaica swamp sawgrass; C; DS (532)

Cyperus croceus Vahl—Baldwin's flatsedge; C; DS (224)

Cyperus haspan L.—haspan flatsedge; C; DM (571, 539)

Cyperus odoratus L.—fragrant flatsedge; C; FF (545, 774)

Cyperus polystachyos Rottb.—manyspike flatsedge; C; DM (160, 243, 295)

Cyperus retrorsus Chapm.—pinebarren flatsedge; C; DM (136, 247, 293, 410)

Cyperus surinamensis Rottb.—tropical flatsedge; C; DM (104, 232, 294, 437)

Eleocharis baldwinii (Torr.) Chapm.—Baldwin's spikerush; C; DS (423, 430, 876)

Eleocharis flavescens (Poir.) Urb.—yellow spikerush; C; WP (231, 547)

Eleocharis vivipara Link.—viviparous spikerush; C; RD (836)

Fimbristylis autumnalis (L.) Roem. & Schult.—slender fimbry; C; RD (585, 878)

Fimbristylis cymosa R.Br.—hurricane grass; O; DS (515)

Fimbristylis dichotoma (L.) Vahl—forked fimbry; C; RD (884)

**Fimbristylis schoenoides* (Retz.) Vahl—ditch fimbry; O; RD (851, 879, 880)

Fimbristylis puberula (Michx.) Vahl—hairy fimbry; O; WP (221, 864)

Fuirena breviseta (Coville) Coville—saltmarsh umbrella-sedge; C; DS (169, 513)

Fuirena pumila (Torr.) Spreng.—dwarf umbrella-sedge; C; DS (233)

Fuirena scirpoidea Michx.—southern umbrella-sedge; C; DS (429)

Lipocarpa maculata (Michx.) Torr.—American halfchaff sedge; O; DS (847)

Rhynchospora cephalantha A. Gray—bunched beaksedge; C; FF (521)

Rhynchospora colorata (L.) H. Pfeiff.—starrush whitetop; O; WP (111)

Rhynchospora corniculata (Lam.) A. Gray—shortbristle horned beaksedge; O; RD (833)

Rhynchospora fascicularis (Michx.) Vahl—fascicled beaksedge; C; DM (122, 135, 182, 255, 365, 417, 485)

Rhynchospora fernaldii Gale—Fernald's beaksedge; C; MF (329)

Rhynchospora inundata (Oakes) Fernald—narrowfruit horned beaksedge; C; DS (223, 228, 425, 888)

Rhynchospora latifolia (Baldwin) W.W. Thomas—giant whitetop; O; DS (758)

Rhynchospora megalocarpa A. Gray—sandyfield beaksedge; C; SP (432, 786)

Rhynchospora microcarpa Baldwin ex A. Gray—southern beaksedge; C; DM (831)

Rhynchospora microcephala (Britton) Britton ex Small—bunched beaksedge; C; DS (529, 573)

Rhynchospora miliacea (Lam.) A. Gray—millet beaksedge; C; FF (352, 687)

Rhynchospora plumosa Elliott—plumed beaksedge; C; MF (189, 416, 678, 681)

Scirpus cyperinus (L.) Kunth—woolgrass; O; DM (780)

Scleria baldwinii (Torr.) Steud.—Baldwin's nutrush; C; WP (742)

Scleria reticularis Michx.—netted nutrush; C; WP (428, 859)

Scleria triglomerata Michx.—tall nutgrass; C; SP (187)

Eriocaulaceae

Eriocaulon compressum Lam.—flattened pipewort; C; WP (510)

Eriocaulon decangulare L.—tenangle pipewort; O; DS (225, 505)

Lachnocaulon anceps (Walter) Morong—white-head bogbutton; C; RD (334, 526)

Syngonanthus flavidulus (Michx.) Ruhland—yellow hatpins; C; MF (85, 674, 703)

Haemodoraceae

Lachnanthes carolina (Lam.) Dandy—Carolina redroot; O; MF (200)

Hydrocharitaceae

Limnobium spongia (Bosc) Rich. ex Steud.—American sponge plant; O; RD (832)

Hypoxidaceae

Hypoxis curtissii Rose—common yellow stargrass; C; FF (312)

Hypoxis juncea Sm.—fringed yellow stargrass; C; MF (97, 300, 656)

Iridaceae

Iris hexagona Walter—Dixie iris; C; FF (660)

Sisyrinchium nashi E.P. Bicknell—Nash's blue-eyed grass; C; MF (668, 729)

**Sisyrinchium rosulatum* E.P. Bicknell—annual blue-eyed grass; R; RD (653)

Juncaceae

Juncus dichotomus Elliott—forked rush; O; DM (548, 828)

Juncus effusus L.—soft rush; C; DS (402, 537)

Juncus marginatus Rostk.—shore rush; C; WP (144, 484, 435, 572)

Juncus megacephalus M.A. Curtis—bighead rush; C; DM (242)

Juncus scirpoides Lam.—needlepod rush; C; DS (258, 192, 205, 327, 501)

Liliaceae

Lilium catesbaei Walter—Catesby's lily; O; MF; threatened (371)

Melanthiaceae

Stenanthium densum (Desr.) Zomlefer & Judd—crowpoison; R; MF (805)

Nartheciaceae

Aletris lutea Small—yellow colicroot; O; MF (238, 723)

Orchidaceae

Calopogon tuberosus (L.) Britton et al.—tuberous grasspink; R; MF (793)

Encyclia tampensis (Lindl.) Small—Florida butterfly orchid; O; FF; commercially exploited (662)

Epidendrum conopseum R. Br.—green-fly orchid; O; FF; commercially exploited (350)

Habenaria floribunda Lindl.—toothpetal false reinorchid; C; BS (594)

Pteroglossaspis ecristata (Fernald) Rolfe—giant orchid; O; MF; threatened (817)

Spiranthes laciniata (Small) Ames—lancelip ladiestresses; O; DS; threatened (764)

Spiranthes odorata (Nutt.) Lindl.—fragrant ladiestresses; O; FF (566)

Spiranthes praecox (Walter) S. Watson—greenvein ladiestresses; O; MF (745)

**Zeuxine strateumatica* (L.) Schltr.—soldier's orchid; R; MF (600)

Poaceae

Amphicarpum muhlenbergianum (Schult.) Hitchc.—blue maidencane; C; BS (427, 514, 549, 877, 883)

Andropogon brachystachyus Chapm.—shortspike bluestem; O; MF (563)

Andropogon glomeratus (Walter) Britton et al. var. *glomeratus*—bushy bluestem; O; DS (436)

Andropogon glomeratus (Walter) Britton et al. var. *glaucopsis* (Elliott) C. Mohr.—purple bluestem; O; MF (251, 536)

Andropogon glomeratus (Walter) Britton et al. var. *pumilus* (Vasey) Vasey ex L.H. Dewey—bushy bluestem; F; WF (476)

Andropogon gyrans Ashe—Elliott's bluestem; C; SH (493, 870)

Andropogon ternarius Michx.—splitbeard bluestem; C; SF (469, 475)

Andropogon virginicus L. var. *decipiens* C.S. Campb.—broomsedge bluestem; C; MF (471, 486)

Andropogon virginicus L. var. *glaucus* Hack.—chalky bluestem; O; SF (493)

Aristida palustris (Chapm.) Vasey—longleaf threeawn; O; MF (845)

Aristida purpurascens Poir. var. *tenuispica* (Hitchc.) Allred—Hillsboro threeawn; C; MF (562, 596, 680)

Aristida purpurascens Poir. var. *virgata* (Trin.) Allred—arrowfeather threeawn; O; WP (488)

Aristida spiciformis Elliott—bottlebrush threeawn; C; MF (308, 364, 415, 474)

Aristida stricta Michx. var. *beyrichiana* (Trin. & Rupr.) D.B. Ward—wiregrass; C; MF (407)

Axonopus furcatus (Flüggé) Hitchc.—big carpetgrass; C; RD (801, 829)

Axonopus fissifolius (Raddi) Kuhl.—common carpetgrass; O; RD (857)

- Cenchrus spinifex* Cav.—coastal sandbur; C; MF (307, 319, 409)
- Ctenium aromaticum* (Walter) A.W. Wood—toothachegrass; O; MF (519, 886)
- **Cynodon dactylon* (L.) Pers.—Bermudagrass; O; RD (842)
- **Dactyloctenium aegyptium* (L.) Willd. ex Asch. & Schweinf.—Durban crowfootgrass; C; MF (525)
- Dichantherium commutatum* (Schult.) Gould—variable witchgrass; C; MF (401, 605, 861)
- Dichantherium dichotomum* (L.) Gould—cypress witchgrass; C; MF (557, 684)
- Dichantherium ensifolium* (Baldwin ex Elliott) Gould var. *ensifolium*—witchgrass; C; WP (190, 411, 540, 675, 712, 865)
- Dichantherium ensifolium* (Baldwin ex Elliott) Gould var. *unciphyllum* (Trin.) B.F. Hansen & Wunderlin—cypress witchgrass; O; MF (666)
- Dichantherium erectifolium* (Nash) Gould & C.A. Clark—erectleaf witchgrass; C; MF (220)
- Dichantherium laxiflorum* (Lam.) Gould—openflower witchgrass; O; MF (800)
- Dichantherium ovale* (Elliott) Gould & C.A. Clark—eggleaf witchgrass; F; MF (717)
- Dichantherium portoricense* (Desv. ex Ham.) B.F. Hansen & Wunderlin—hemlock witchgrass; C; MF (363, 667, 676, 713)
- Digitaria ciliaris* (Retz.) Koeler—southern crabgrass; O; RD (856, 881)
- **Eleusine indica* (L.) Gaertn.—Indian goosegrass; O; RD (841)
- **Eragrostis atrovirens* (Desf.) Trin. ex Steud.—Thalia lovegrass; C; WP (229, 257, 543, 575, 583, 844)
- Eragrostis elliotii* S. Watson—Elliott's lovegrass; C; MF (414, 438, 459)
- Eragrostis secundiflora* J. Presl subsp. *oxylepis* (Torr.) S.D. Koch—red love-grass; O; MF (811)
- Eragrostis virginica* (Zuccagni) Steud.—coastal lovegrass; C; WP (412, 569)
- **Eremochloa ophiuroides* (Munro) Hack.—centipedegrass; C; RD (872)
- Eustachys petraea* (Sw.) Desv.—pinewoods fingergrass; C; MF (164, 244)
- Leersia hexandra* Sw.—southern cutgrass; C; DM (542)
- Panicum anceps* Michx.—beaked panicum; C; DS (252, 137, 406, 835)
- Panicum dichotomiflorum* Michx.—fall panicgrass; O; DM (843)
- Panicum hemitomom* Schult.—maidencane; C; DS (753)
- **Panicum repens* L.—torpedograss; C; RD; FLEPC-I (827)
- Panicum rigidulum* Bosc ex Nees—redtop panicum; C; BS (439, 490, 848)
- Panicum verrucosum* Muhl.—warty panicgrass; C; FF (420)
- Panicum virgatum* L.—switchgrass; C; MF (568)
- Paspalum floridanum* Michx.—Florida paspalum; O; DS (246)
- Paspalum laeve* Michaux—field paspalum; O; WP (184)
- **Paspalum notatum* Flüggé var. *notatum*—Bahia grass; O; MF (186)
- **Paspalum notatum* Flüggé var. *saurae* Parodi—Bahia grass; C; MF (756)
- Paspalum praecox* Walter—early paspalum; C; MF (226)
- Paspalum setaceum* Michx.—thin paspalum; C; MF (256, 421, 433, 489, 530, 806)
- **Paspalum urvillei* Steud.—Vaseygrass; C; WP (245, 757)
- **Rhynchelytrum repens* (Willd.) C.E. Hubb.—rose Natalgrass; C; MF; FLEPPC-II (809)
- Saccharum giganteum* (Walter) Pers.—sugarcane plume grass; C; DS (424, 550, 582)
- **Sacciolepis indica* (L.) Chase—Indian cupscale; C; DM (862)
- Sacciolepis striata* (L.) Nash—American cupscale; C; FF (534)
- Schizachyrium scoparium* (Michx.) Nash—little bluestem; C; MF (492)
- Setaria parviflora* (Poir.) Kerguelen—yellow bristlegrass; C; MF (172, 298)
- Sorghastrum secundum* (Elliott) Nash—lopsided Indiangrass; C; MF (391)
- Sphenopholis obtusata* (Michx.) Scribn.—prairie wedgescale; C; FF (692)
- Sporobolus floridanus* Chapm.—Florida dropseed; O; MF (431, 863, 887)
- **Sporobolus indicus* (L.) R. Br.—smutgrass; C; MF (434)
- Sporobolus junceus* (P.Beauv.) Kunth—pinewoods dropseed; O; MF (763)

Pontederiaceae

Pontederia cordata L.—pickerelweed; C; BS (109)

Smilacaceae

Smilax auriculata Walter—earleaf greenbrier; C; SH (315)

Smilax bona-nox L.—saw greenbrier; C; FF (555, 672)

Smilax glauca Walter—cat greenbrier; O; FF (818)

Smilax laurifolia L.—laurel greenbrier; C; BS (522, 561, 592)

Smilax pumila Walter—sarsaparilla vine; O; SF (689)

Typhaceae

Typha latifolia L.—broadleaf cattail; O; WP (773)

Xyridaceae

Xyris ambigua Beyr. ex Kunth—coastal plain yelloweyed grass; C; MF (165)

Xyris caroliniana Walter—Carolina yelloweyed grass; C; MF (139, 814)

Xyris elliottii Chapm.—Elliott's yelloweyed grass; C; WP (133)

Xyris fimbriata Elliott—fringed yelloweyed grass; C; DS (389)

Xyris flabelliformis Chapm.—Savannah yellow-eyed grass; O; RD (644)

**Xyris jupicai* Rich.—Richard's yelloweyed grass; C; RD (145, 166, 544)

Xyris platylepis Chapm.—tall yelloweyed grass; C; WP (214)

DICOTS**Acanthaceae**

Dyschoriste oblongifolia (Michx.) Kuntze—oblongleaf twinflower; O; SH (750)

Ruellia ciliosa Pursh—ciliate wild petunia; O; SH (322)

Adoxaceae

Sambucus nigra L. subsp. *canadensis* (L.) Bolli—American elder; O; BS (769)

Viburnum obovatum Walter—Walter's viburnum; C; FF (346, 686)

Amaranthaceae

**Chenopodium ambrosioides* L.—Mexican tea; C; RD (789)

Froelichia floridana (Nutt.) Moq.—cottonweed; C; SH (194)

Anacardiaceae

Rhus copallinum L.—winged sumac; O; SH (361)

Toxicodendron radicans (L.) Kuntze—eastern poison ivy; C; DS (533)

Annonaceae

Asimina angustifolia Raf.—slimleaf pawpaw; O; SH (718)

Asimina obovata (Willd.) Nash—big flower pawpaw; C; SP (650, 704, 785)

Asimina reticulata Shuttlew. ex Chapm.—netted pawpaw; C; SH (449, 636)

Apiaceae

Eryngium baldwinii Spreng.—Baldwin's eryngo; O; FF (87, 737)

Eryngium yuccifolium Michx.—button rattlesnakemaster; O; SH (143)

Oxypolis filiformis (Walter) Britton—water cowbane; C; RD (426, 578)

Ptilimnium capillaceum (Michx.) Raf.—mock bishopsweed; C; DM (105, 759, 790)

Apocynaceae

Asclepias feayi Chapm. ex A. Gray—Florida milkweed; C; MF (78, 96)

Asclepias humistrata Walter—pinewoods milkweed; C; SH (696)

Asclepias longifolia Michx.—longleaf milkweed; O; WP (227)

Asclepias pedicellata Walter—Savannah milkweed; O; MF (212)

Asclepias tomentosa Elliott—velvetleaf milkweed; O; SH (810)

Asclepias tuberosa L.—butterflyweed; O; SH (88)

Aquifoliaceae

Ilex cassine L.—dahoon; C; FF (397)

Ilex glabra (L.) A. Gray—gallberry; C; DM (259, 362, 450)

Araliaceae

Centella asiatica (L.) Urb.—spadeleaf; C; DS (819)

Hydrocotyle umbellata L.—manyflower marshpennywort; C; DS (654, 721)

Hydrocotyle verticillata Thunb.—whorled marshpennywort; O; FF (804)

Asteraceae

Acmella oppositifolia (Lam.) R.K. Jansen var. *repens* (Walter) R.K. Jansen—oppositeleaf spotflower; O; DM (468)

Ambrosia artemisiifolia L.—common ragweed; C; MF (296, 318)

Baccharis halimifolia L.—groundsel tree; C; SH (455, 477)

Balduina angustifolia (Pursh) B.L. Rob.—

- coastalplain honeycombhead; C; SH (208, 267, 271)
- Bidens alba* (L.) DC. var. *radiata* (Sch. Bip) R.E. Ballard ex Melchert—beggarticks; C; RD (285)
- Bigelovia nudata* (Michx.) DC. subsp. *australis* L.C. Anderson—pineland rayless goldenrod; C; MF (374, 727)
- Boltonia diffusa* Elliott—smallhead doll's daisy; C; RD (481)
- Carphephorus corymbosus* (Nutt.) Torr. & A. Gray—coastalplain chaffhead; O; SF (291)
- Carphephorus odoratissimus* (J.F. Gmel.) H. Hebert var. *subtropicus* (DeLaney et al.) Wunderlin & B.F. Hansen—vanillaleaf; C; MF (303)
- Carphephorus paniculatus* (J.F. Gmel.) H. Hebert—hairy chaffhead; C; WP (495)
- Chaptalia tomentosa* Vent.—woolly sunbonnets; C; DM (580, 611)
- Chrysopsis mariana* (L.) Elliott—Maryland goldenaster; C; MF (791)
- Chrysopsis subulata* Small—scrubland goldenaster; C; MF (161, 197, 207, 815)
- Cirsium horridulum* Michx.—purple thistle; O; MF (691)
- Cirsium nuttallii* DC.—Nuttall's thistle; O; MF (195, 203)
- Conyza canadensis* (L.) Cronquist var. *pusilla* (Nutt.) Cronquist—dwarf Canadian horseweed; C; RD (171, 317, 358)
- Coreopsis floridana* E.B. Smith—Florida tickseed; O; DS (576)
- Coreopsis leavenworthii* Torr. & A. Gray—Leavenworth's tickseed; O; MF (158)
- Croptilon divaricatum* (Nutt.) Raf.—slender scratchdaisy; C; RD (551, 890)
- Elephantopus elatus* Bertol.—tall elephantsfoot; C; SH (152, 283, 325)
- Erechtites hieraciifolius* (L.) Raf. ex DC.—fireweed; C; DS (146, 254)
- Erigeron quercifolius* Poir.—oakleaf fleabane; C; MF (100, 657)
- Erigeron vernus* (L.) Torr. & A. Gray—early whitetop fleabane; C; MF (162, 372, 574, 747)
- Eupatorium capillifolium* (Lam.) Small ex Porter & Britton—dogfennel; C; MF (483)
- Eupatorium compositifolium* Walter—yankee-weed; C; DS (441, 458, 478)
- Eupatorium mohrii* Greene—Mohr's throughwort; C; MF (121, 448, 777)
- Eupatorium rotundifolium* L.—roundleaf throughwort; C; MF (209, 235)
- Eupatorium serotinum* Michx.—lateflowering throughwort; C; DM (344)
- Euthamia caroliniana* (L.) Greene ex Porter & Britton—slender flattop goldenrod; C; MF (442)
- Gaillardia pulchella* Foug.—firewheel; O; RD (90, 181)
- Gamochaeta antillana* (Urb.) Anderb.—Caribbean purple everlasting; O; RD (640)
- Gamochaeta pensylvanica* (Willd.) Cabrera—Pennsylvania everlasting; O; RD (641)
- Garberia heterophylla* (W. Bartram) Merr. & F. Harper—garberia; O; SP; threatened (512)
- Helenium pinnatifidum* (Schwein. ex Nutt.) Rydb.—southeastern sneezeweed; O; DS (725)
- Helianthus angustifolius* L.—narrowleaf sunflower; C; DS (464)
- Helianthus radula* (Pursh) Torr. & A. Gray—stiff sunflower; O; MF (356)
- Heterotheca subaxillaris* (Lam.) Britton & Rusby—camphorweed; C; SH (366, 444, 535)
- Hieracium gronovii* L.—queendevil; O; SH (454, 603)
- Hieracium megacephalon* Nash—coastalplain hawkweed; C; MF (174, 193, 260, 264)
- Iva microcephala* Nutt.—piedmont marshelder; C; DS (466, 531)
- Krigia virginica* (L.) Willd.—Virginia dwarf dandelion; C; RD (637)
- Lactuca graminifolia* Michx.—grassleaf lettuce; C; RD (720, 760)
- Liatris gracilis* Pursh—slender gayfeather; C; SH (250, 375, 392)
- Liatris pauciflora* Pursh—fewflower gayfeather; O; SH (324)
- Liatris spicata* (L.) Willd.—dense gayfeather; O; SH (378)
- Liatris tenuifolia* Nutt.—shortleaf gayfeather; C; SH (403)
- Lygodesmia aphylla* (Nutt.) DC.—rose-rush; C; MF (81, 302)
- Mikania scandens* (L.) Willd.—climbing hempvine; O; FF (110, 382, 869)
- Oclemena reticulata* (Pursh) G.L. Nesom—white-topped aster; C; DS (156, 447, 496, 711)
- Palafoxia intergrifolia* (Nutt.) Torr. & A. Gray—coastalplain palafox; O; SH (154)

- Phoebanthus grandiflorus* (Torr. & A. Gray) S.F. Blake—Florida false sunflower; C; MF (129, 311, 587)
- Pityopsis graminifolia* (Nutt.) Michx.—narrowleaf silkgrass; C; MF (261, 599)
- Pluchea foetida* (L.) DC.—stinking camphorweed; O; DS (343)
- Pluchea rosea* R.K. Godfrey—rosy camphorweed; C; FF (101, 149, 198, 820)
- Pseudognaphalium obtusifolium* (L.) Hilliard & B.L. Burt—sweet everlasting; C; MF (393)
- Pterocaulon pycnostachyum* (Michx.) Elliott—blackroot; C; MF (79)
- Pyrrhopappus carolinianus* (Walter) DC.—Carolina desertchicory; O; XH (394)
- Sericocarpus tortifolius* (Michx.) Nees—whitetop aster; C; MF (178, 445, 516)
- Solidago fistulosa* Mill.—pinebarren goldenrod; C; MF (443, 456)
- Solidago odora* Aiton var. *chapmanii* (Torr. & A. Gray) Cronquist—Chapman's goldenrod; C; SH (153, 282)
- Solidago stricta* Aiton—wand goldenrod; C; MF (503)
- Symphotrichum adnatum* (Nutt.) G.L. Nesom—scaleleaf aster; O; MF (597)
- Symphotrichum carolinianum* (Walter) Wunderlin & B.F. Hansen—climbing aster; O; FF (586)
- Symphotrichum dumosum* (L.) G.L. Nesom—rice button aster; C; SH (491, 504, 731)
- Symphotrichum subulatum* (Michx.) G.L. Nesom—annual saltmarsh aster; C; DM (874)
- Vernonia gigantea* (Walter) Trel. ex Branner & Coville—giant ironweed; O; FF (860)

Betulaceae

- Carpinus caroliniana* Walter—American hornbeam; O; FF (341)

Bignoniaceae

- Campsis radicans* (L.) Seem. ex Bureau—trumpet creeper; O; FF (313)

Brassicaceae

- Lepidium virginicum* L.—Virginia pepperweed; C; RD (652)

Cactaceae

- Opuntia humifusa* (Raf.) Raf.—pricklypear; C; SH (217)

Campanulaceae

- Lobelia cardinalis* L.—cardinalflower; O; FF, threatened (396)
- Lobelia glandulosa* Walter—glade lobelia; O; MF (507)
- Lobelia paludosa* Nutt.—white lobelia; C; MF (275, 722, 821)
- Triodanis perfoliata* (L.) Nieuwl.—clasping Venus's lookingglass; O; RD (714)
- **Wahlenbergia marginata* (Thunb.) A. DC.—southern rockbell; C; RD (216, 715)

Caryophyllaceae

- Drymaria cordata* (L.) Willd. ex Schult.—West Indian chickweed; O; RD (607)
- Stipulicida setacea* Michx. var. *lacerata* C.W. James—pineland scalypink; C; SP (659)

Chrysobalanaceae

- Licania michauxii* Prance—gopher apple; C; SH (95)

Cistaceae

- Helianthemum carolinianum* (Walter) Michx.—Carolina frostweed; C; MF (634, 761)
- Helianthemum corymbosum* Michx.—pinebarren frostweed; C; SH (180, 616, 639)
- Lechea torreyi* (Chapm.) Legg. ex Britton—piedmont pinweed; C; MF (210, 629, 853)

Clusiaceae

- Hypericum cistifolium* Lam.—roundtop St. John's-wort; C; WP (117, 213, 335, 157, 646)
- Hypericum fasciculatum* Lam.—peelbark St. John's-wort; C; DS (234, 520)
- Hypericum gentianoides* (L.) Britton et al.—pineweeds; C; DS (196, 239, 279, 570)
- Hypericum hypericoides* (L.) Crantz—St. Andrew's-cross; C; DS (142, 348, 446, 834)
- Hypericum mutilum* L.—dwarf St. John's-wort; C; DS (99, 112)
- Hypericum myrtifolium* Lam.—myrtleleaf St. John's-wort; C; WP (86, 177)
- Hypericum reductum* (Svenson) W.P. Adams—Atlantic St. John's-wort; O; SH (796)
- Hypericum setosum* L.—hairy St. John's-wort; O; DS (373)
- Hypericum tetrapetalum* Lam.—fourpetal St. John's-wort; C; MF (176, 206)

Convolvulaceae

- Ipomoea sagittata* Poir.—saltmarsh morning-glory; O; DS (812)

Stylisma patens (Desr.) Myint—coastalplain dawnflower; O; SH (269, 272)

Cornaceae

Cornus foemina Mill.—swamp dogwood; O; FF (685)

Nyssa sylvatica Marshall var. *biflora* (Walter) Sarg.—swamp tupelo; C; FF (705, 728, 779)

Droseraceae

Drosera capillaris Poir.—pink sundew; C; DS (120, 726)

Ebenaceae

Diospyros virginiana L.—common persimmon; C; SF (702)

Ericaceae

Bejaria racemosa Vent.—tarflower; C; SF (118, 292, 487)

Ceratiola ericoides Michx.—Florida rosemary; O; SP (787)

Gaylussacia dumosa (J. Kenn.) Torr. & A. Gray—dwarf huckleberry; C; SH (669, 738, 795)

Gaylussacia frondosa (L.) Torr. & A. Gray ex Torr. var. *tomentosa* A. Gray—blue huckleberry; O; MF (649)

Lyonia ferruginea (Walter) Nutt.—rusty staggerbush; O; SF (732)

Lyonia fruticosa (Michx.) G.S. Torr.—coastalplain staggerbush; O; SF (612, 733)

Lyonia lucida Lam.—fetterbush; C; DS (287, 560, 591, 613)

Vaccinium corymbosum L.—highbush blueberry; O; MF (627)

Vaccinium myrsinites Lam.—shiny blueberry; C; MF (76, 615, 642)

Vaccinium stamineum L.—deerberry; O; SH (651, 673)

Euphorbiaceae

Acalypha gracilens A. Gray—slender threeseed mercury; O; RD (802)

Chamaesyce hirta (L.) Millsp.—pillpod sandmat; O; RD (839)

Chamaesyce hyssopifolia (L.) Small—hyssopleaf sandmat; C; RD (387)

Chamaesyce maculata (L.) Small—spotted sandmat; O; RD (866)

Cnidoscolus stimulosus (Michx.) Engelm. & A. Gray—tread-softly; O; SH (253)

Croton glandulosus L.—vente conmigo; O; RD (840)

Croton michauxii G.L. Webster—rushfoil; C; SH (131, 788, 816)

**Phyllanthus urinaria* L.—chamber bitter; O; RD (855)

Stillingia aquatica Chapm.—water toothleaf; O; BS (222)

Stillingia sylvatica L.—queen's delight; O; SH (102, 168)

Fabaceae

Amorpha herbacea Walter—clusterspike false indigobush; O; SH (94)

Apios americana Medik.—groundnut; O; DS (813)

Centrosema virginianum (L.) Benth.—spurred butterfly pea; C; SH (92, 284, 323)

Chamaecrista fasciculata (Michx.) Greene—partridge pea; C; SH (163, 278)

Chamaecrista nictitans (L.) Moench var. *aspera* (Muhl. ex Elliott) H. S. Irwin & Barneby—sensitive pea; C; SH (321)

**Crotalaria lanceolata* E. Mey—lanceleaf rattlebox; O; RD (236, 850)

**Crotalaria pallida* Aiton var. *obovata* (G. Don) Polhill—smooth rattlebox; O; RD (218)

Crotalaria rotundifolia J.F. Gmel.—rabbitbells; C; SH (126, 127, 326, 405, 670)

**Crotalaria spectabilis* Roth—showy rattlebox; C; RD (479)

**Desmodium incanum* DC.—tickfoil; C; RD (248, 386)

Desmodium paniculatum (L.) DC.—panicled ticktrefoil; O; SH (408, 470)

**Desmodium triflorum* (L.) DC.—threeflower ticktrefoil; O; RD (807)

Galactia elliottii Nutt.—Elliott's milkpea; O; SH (159, 749)

Galactia regularis (L.) Britton et al.—eastern milkpea; O; MF (824)

Galactia volubilis (L.) Britton—downy milkpea; C; SH (357, 767, 784, 854)

Indigofera caroliniana Mill.—Carolina indigo; C; SH (873, 875)

**Indigofera hirsuta* L.—hairy indigo; C; RD (457)

**Indigofera spicata* Forssk.—trailing indigo; O; RD (826)

Lespedeza hirta (L.) Hornem.—hairy lespedeza; C; SF (891)

Lupinus diffusus Nutt.—skyblue lupine; O; SH (635)

**Macroptilium lathyroides* (L.) Urb.—wild bushbean; O; RD (124)

- **Medicago lupulina* L.—black medick; O; RD (710)
Mimosa quadrivalvis L. var. *angustata* (Torr. & A. Gray) Barneby—sensitive brier; O; SH (268)
Rhynchosia michauxii Vail—Michaux's snout-bean; O; SH (671)
Senna obtusifolia (L.) H.S. Irwin & Barneby—coffeeweed; O; RD (868)
Tephrosia chrysophylla Pursh—scurf hoarypea; O; RD (867)
Tephrosia hispidula (Michx.) Pers.—sprawling hoarypea; O; SH (885)
Vicia acutifolia Elliott—fourleaf vetch; O; FF (708)

Fagaceae

- Quercus chapmanii* Sarg.—Chapman's oak; O; SF (695, 701)
Quercus geminata Small—sand live oak; C; SH (453)
Quercus incana W. Bartram—bluejack oak; O; SH (694)
Quercus laevis Walter—turkey oak; C; SH (472, 473)
Quercus laurifolia Michx.—laurel oak; O; FF (314, 463)
Quercus margaretta Ashe ex Small—sand post oak; R; SH (762)
Quercus minima (Sarg.) Small—dwarf live oak; C; SH (179, 320, 419)
Quercus myrtifolia Willd.—myrtle oak; C; SF (333, 462)
Quercus nigra L.—water oak; O; MF (309)
Quercus virginiana Mill.—live oak; O; DS (746)

Gelsemiaceae

- Gelsemium sempervirens* (L.) Aiton f.—yellow jasmine; O; SF (620)

Gentianaceae

- Sabatia brevifolia* Raf.—shortleaf rosegentian; O; MF (286, 301)
Sabatia calycina (Lam.) A. Heller—coastal rosegentian; O; FF (739)
Sabatia grandiflora (A. Gray) Small—largeflower rosegentian; C; DM (262, 390, 518)

Geraniaceae

- Geranium carolinianum* L.—Carolina cranesbill; O; RD (709)

Haloragaceae

- Proserpinaca pectinata* Lam.—combleaf mermaidweed; O; DM (564, 741, 768)

Iteaceae

- Itea virginica* L.—Virginia willow; O; BS (664)

Lamiaceae

- Callicarpa americana* L.—American beautyberry; O; MF (119)
Hyptis alata (Raf.) Shinnars—musky mint; C; DM (274, 331, 345)
 **Hyptis mutabilis* (Rich.) Briq.—tropical bushmint; O; FF (173, 276)
Lycopus rubellus Moench—taperleaf water-horehound; F; DM (511)
Piloblephis rigida (W. Bartram ex Benth.) Raf.—wild pennyroyal; O; MF (630)
Salvia lyrata L.—lyreleaf sage; O; BS (606)
Scutellaria arenicola Small—Florida scrub skullcap; C; SH (132)
Teucrium canadense L.—woodsage; C; DM (113)
Trichostema dichotomum L.—forked bluecurls; C; MF (377)

Lauraceae

- **Cinnamomum camphora* (L.) J. Presl—camphortree; R; BS; FLEPPC-I (734)
Persea palustris (Raf.) Sarg.—swamp bay; C; FF (289, 353)

Lentibulariaceae

- Pinguicula pumila* Michx.—small butterwort; O; MF (588)
Utricularia foliosa L.—leafy bladderwort; O; DS (527, 771)
Utricularia inflata Walter—floating bladderwort; O; BS (626)
Utricularia juncea Vahl—southern bladderwort; O; DM (369)
Utricularia subulata L.—zigzag bladderwort; O; WP (273)

Linaceae

- Linum medium* (Planch.) Britton var. *texanum* (Planch.) Fernald—stiff yellow flax; O; WP (797)

Loganiaceae

- Mitreola petiolata* (J.F. Gmel.) Torr. & A. Gray—lax hornpod; O; DS (497)
Mitreola sessilifolia (J.F. Gmel.) G. Don—swamp hornpod; C; WP (148, 370, 379, 852)

Lythraceae

- **Cuphea carthagenensis* (Jacq.) J.F. Macbr.—Columbian waxweed; C; FF (219, 508, 799)

Lythrum alatum Pursh var. *lanceolatum* (Elliott) Torr. & A. Gray ex Rothr.—winged loosestrife; O; MF (277)

Magnoliaceae

Magnolia virginiana L.—sweetbay; R; DS (658)

Malvaceae

**Urena lobata* L.—caesarweed; C; FF; FLEPPC-II (500)

Melastomataceae

Rhexia cubensis Griseb.—West Indian meadowbeauty; O; DS (183)

Rhexia mariana L.—pale meadowbeauty; C; DS (84, 697, 744)

Rhexia nuttallii C.W. James—Nuttall's meadowbeauty; O; MF (185, 506)

Myricaceae

Myrica cerifera L.—wax myrtle; C; MF (332, 693)

Nymphaeaceae

Nymphaea odorata Aiton—American white waterlily; O; BS (752)

Nuphar advena (Aiton) Aiton f.—spatterdock; O; BS (754)

Olacaceae

Ximenia americana L.—tallow wood; O; SP (460)

Oleaceae

Fraxinus caroliniana Mill.—Carolina ash; C; FF (107, 337, 778)

Onagraceae

Gaura angustifolia Michx.—southern beeblossom; O; MF (125, 128)

Ludwigia linearis Walter—narrowleaf primrosewillow; C; DS (280, 385, 451)

Ludwigia linifolia Poir.—southeastern primrosewillow; C; DM (265, 699)

Ludwigia maritima R.M. Harper—seaside primrosewillow; O; MF (147, 201, 263)

Ludwigia microcarpa Michx.—smallfruit primrosewillow; O; DS (297)

Ludwigia octovalvis (Jacq.) Raven—Mexican primrosewillow; O; DM (384, 541)

**Ludwigia peruviana* (L.) H. Hara—Peruvian primrosewillow; O; RD (825)

Ludwigia repens J.R. Forst.—creeping primrosewillow; C; FF (772)

Ludwigia suffruticosa Walter—shrubby primrosewillow; O; DS (240)

Oenothera laciniata Hill—cutleaf eveningprimrose; O; RD (204, 638)

Orobanchaceae

Agalinis fasciculata (Elliott) Raf.—beach false foxglove; C; MF (359, 381)

Agalinis linifolia (Nutt.) Britton—flaxleaf false foxglove; O; DM (846)

Agalinis tenuifolia (Vahl) Raf.—slenderleaf false foxglove; O; MF (502)

Buchnera americana L.—American bluehearts; O; MF (123, 755)

Seymeria cassioides (J.F. Gmel.) S.F. Blake—yaupon black-senna; O; MF (237, 376, 422)

Seymeria pectinata Pursh—piedmont black-senna; O; SH (368)

Oxalidaceae

Oxalis corniculata L.—common yellow wood-sorrel; O; RD (617)

Passifloraceae

Passiflora incarnata L.—purple passionflower; O; RD (155)

Plantaginaceae

Plantago virginica L.—Virginia plantain; O; RD (648)

Polygalaceae

Polygala cymosa Walter—tall pinebarren milkwort; O; DS (724)

Polygala lutea L.—orange milkwort; C; MF (83, 188)

Polygala nana (Michx.) DC.—candyroot; C; MF (82, 281)

Polygala rugelii Shuttlew. ex Chapm.—yellow milkwort; O; WP (175)

Polygala setacea Michx.—coastalplain milkwort; C; MF (98, 211, 748)

Polygala violacea Aubl.—showy milkwort; C; MF (93)

Polygonaceae

Polygonella gracilis Meisn.—tall jointweed; O; SH (367, 404, 567)

Polygonella polygama (Vent.) Engelm. & A. Gray—October flower; C; SH (395, 461)

Polygonum hydropiperoides Michx.—swamp smartweed; C; DS (114, 399, 482)

Polygonum punctatum Elliott—dotted smartweed; C; RD (400)

Rumex hastatulus Baldwin—heartwing dock; O; RD (719)

Portulacaceae

**Portulaca amilis* Speg.—Paraguayan purslane; O; RD (808)

Primulaceae

Samolus valerandi L. subsp. *parviflorus* (Raf.) Hulten—pineland pimpernel; O; FF (349)

Rhamnaceae

Berchemia scandens (Hill) K. Koch.—rattan vine; O; FF (336)

Rosaceae

Photinia pyrifolia (Lam.) K.R. Robertson & J.B. Phipps—red chokecherry; O; DS (628)

Prunus caroliniana (Mill.) Aiton—Carolina laurelcherry; O; RD (631)

Prunus serotina Ehrh.—black cherry; O; RD (632)

Rubus argutus Link—sawtooth blackberry; C; DS (645, 663)

Rubus cuneifolius Pursh—sand blackberry; C; MF (730)

Rubus trivialis Michx.—southern dewberry; O; FF (792)

Rubiaceae

Cephalanthus occidentalis L.—common buttonbush; C; DS (524, 770)

Diodia teres Walter—rough buttonweed; C; SH (304)

Diodia virginiana L.—Virginia buttonweed; C; BS (106, 199, 388)

Galium tinctorium L.—stiff marsh bedstraw; C; RD (598)

Houstonia procumbens (J.F. Gmel.) Standl.—innocence; C; MF (589, 604)

Mitchella repens L.—partridgeberry; O; FF (340, 688)

Oldenlandia uniflora L.—clustered mille graine; C; DS (413, 882, 889)

Psychotria nervosa Sw.—wild coffee; C; FF (339)

Psychotria sulzneri Small—shortleaf wild coffee; C; FF (338)

**Richardia brasiliensis* Gomes—tropical Mexican clover; C; RD (202)

Spermacoce assurgens Ruiz & Pav.—woodland false buttonweed; O; DM (241)

Spermacoce prostrata Aubl.—prostrate false buttonweed; O; FF (299)

Salicaceae

Salix caroliniana Michx.—Carolina willow; C; RD (633)

Sapindaceae

Acer rubrum L.—red maple; C; FF (590)

Saururaceae

Saururus cernuus L.—lizard's tail; C; FF (585)

Solanaceae

Solanum americanum Mill.—American black nightshade; O; FF (593)

Tetrachondraceae

Polypremum procumbens L.—rustweed; C; RD (130)

Theaceae

Gordonia lasianthus (L.) J. Ellis—loblolly bay; O; BS (288, 559)

Ulmaceae

Ulmus alata Michx.—winged elm; O; FF (682)

Ulmus americana L.—American elm; O; FF (619, 735)

Urticaceae

Boehmeria cylindrica (L.) Sw.—false nettle; C; DS (342, 584)

Verbenaceae

Phyla nodiflora (L.) Greene—turkey tangle fogfruit; C; RD (89)

**Verbena brasiliensis* Vell.—Brazilian vervain; O; RD (775)

Verbena scabra Vahl—sandpaper vervain; O; MF (849)

Veronicaceae

Bacopa monnieri (L.) Pennell—herb-of-grace; O; DM (625)

Gratiola hispida (Benth. ex Lindl.) Pollard—rough hedgehyssop; O; MF (140, 141)

Gratiola pilosa Michx.—shaggy hedgehyssop; O; BS (103, 167, 766)

Gratiola ramosa Walter—branched hedgehyssop; O; DS (698)

Linaria canadensis (L.) Chaz.—Canadian toadflax; C; DS (622, 643)

**Lindernia crustacea* (L.) F. Muell.—Malaysian false pimpernel; O; RD (440)

Mecardonia acuminata (Walter) Small subsp. *peninsularis* (Pennell) Rossow—axilflower; C; WP (230, 743)

Micranthemum glomeratum (Chapm.) Shinners—manatee mudflower; O; WP (623)

Scoparia dulcis L.—sweetbroom; C; MF (151)

Violaceae

Viola lanceolata L.—bog white violet; O; DS (624)

Viola palmata L.—early blue violet; O; MF (647)

Viola primulifolia L.—primroseleaf violet; C; DS (601, 618)

Viola sororia Willd.—common blue violet; O; FF (621)

Viscaceae

Phoradendron leucarpum (Raf.) Reveal & M.C. Johnst.—oak mistletoe; O; BS (465)

Vitaceae

Ampelopsis arborea (L.) Koehne—peppervine; O; DS (150)

Parthenocissus quinquefolia (L.) Planch.—Virginia creeper; O; MF (783)

Vitis rotundifolia Michx.—muscadine; C; MF (360)

Vitis shuttleworthi House—calloose grape; O; MF (736)

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REFERENCES

- CHEN, E. and J.F. GERBER. 1990. Climate. In: R.L. Myers and J.J. Ewel, eds. *Ecosystems of Florida*. University Presses of Florida, Gainesville. Pp. 11–34.
- COILE, N.C. and M.A. GARLAND. 2003. Notes on Florida's endangered and threatened plants. Florida Department of Agriculture and Consumer Services, Gainesville.
- FLORIDA EXOTIC PEST PLANT COUNCIL (FLEPPC). 2005. List of Florida's invasive species. Florida Exotic Pest Plant Council. (<http://www.fleppc.org>).
- FLORIDA NATURAL AREAS INVENTORY (FNAI). 1990. Guide to the natural communities of Florida, Tallahassee.
- FLORIDA NATURAL AREAS INVENTORY (FNAI). 2004. Natural community mapping project of Starkey Wilderness Preserve, Southwest Florida Water Management District. Florida Natural Areas Inventory, Tallahassee.
- LAWSON, S.F., R.P. INGALLS, and C. BAYLESS. 1981. Preserving for the future: A history of the J. B. Starkey Wilderness Park. Department of History, University of South Florida, Tampa. Reprinted by Southwest Florida Water Management District, Brooksville.
- MILANICH, J.T. 1994. *Archaeology of Precolumbian Florida*. University Press of Florida, Gainesville.
- SCOTT, T.M., K.M. CAMPBELL, F.R. RUPERT, J.D. ARTHUR, T.M. MISSIMER, J.M. LLOYD, J.W. YON, and J.G. DUNCAN. 2001. Geologic map of the state of Florida. Florida Geological Survey in cooperation with the Florida Department of Environmental Protection. U.S. Department of the Interior, U.S. Geological Survey, Center for Coastal Geology, Washington.
- SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD). 1988. Ground-water resource availability inventory: Pasco County, Florida. Brooksville.

- SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD). 1990. A plan for the use and management of the Starkey tract. Brooksville
- STANKEY, D.L. 1982. Soil survey of Pasco County, Florida. U.S. Department of Agriculture, Soil Conservation Service in cooperation with University of Florida, Institute of Food and Agriculture Sciences Department and Florida Department of Agriculture and Consumer Services. U. S. Government Printing Office, Washington.
- UNITED STATES GEOLOGICAL SURVEY (USGS). 1974. Odessa Quadrangle, Florida 7.5 Minute Series (topographic). United States Geological Survey, Department of the Interior, Washington.
- WELLS, M. 2004. Pasco county property appraiser. Dade City. (<http://appraiser.pascogov.com/>).
- WETTERHALL, W.S. 1964. Geohydrologic reconnaissance of Pasco and southern Hernando Counties, Florida. Florida Geological Survey Report. Florida Geological Survey, Tallahassee.
- WILLEY, G.R. 1949. Archeology of the Florida Gulf Coast. Smithsonian Miscellaneous Collections, 113:1–559. Smithsonian Institute, Washington.
- WUNDERLIN, R.P. 1998. Guide to the vascular plants of Florida. University Press of Florida, Gainesville.
- WUNDERLIN, R.P. and B.F. HANSEN. 2003. Guide to the vascular plants of Florida, 2nd ed. University Press of Florida, Gainesville.
- WUNDERLIN, R.P. and B.F. HANSEN. 2005. Atlas of Florida vascular plants [S. M. Landry and K. N. Campbell (application development), Florida Center for Community Design and Research.] Institute for Systematic Botany, University of South Florida, Tampa. (<http://www.plantatlas.usf.edu>).